

NOV 28 2006

Application No.: 10/779,302

Docket No.: JCLA10577

AMENDMENTTo the Claims:

Please amend the claims as follows:

Claim 1 (currently amended) A storage system with a snapshot-backup capability ~~electrically~~, externally coupled to a main system, comprising:

a storage device including at least a first data block and a second data block in response to the first data block; and

a storage controlling unit for receiving at least a newly stored data transmitted from the main system, in accordance with distribution of each data in said data blocks of the storage device, determining whether there is any difference found between the newly stored data and at least a previously stored data located in the first data block, thereby backing up each different previously stored data from the first data block to the second data block, and then storing the corresponding different newly stored data to the first data block where the different previously stored data is located as long as there is any ~~one~~ different data found between the newly and previously stored data.

Claim 2 (currently amended) The storage system of claim 1, wherein the storage device is as consists of a multi-storage-disk array.

Claim 3 (original) The storage system of claim 1, wherein the distribution of each data stored in said data blocks of the storage device is recorded in a block-mapping table.

Application No.: 10/779,302

Docket No.: JCLA10577

Claim 4 (original) The storage system of claim 3, wherein the backup process of the different previously stored data of the first data block to the second data block is recorded in the block-mapping table.

Claim 5 (original) The storage system of claim 3, wherein the storing process of the corresponding different newly stored data to the first data block is recorded in the block-mapping table.

Claim 6 (currently amended) The storage system of claim 1, wherein the storage controlling unit includes at least a chip controller and an embedded driver software.

Claim 7 (currently amended) A storage system with a snapshot-backup capability electrically, externally coupled to a main system, comprising:

a storage controlling unit for receiving and processing both commands and data from the main system, ~~disposed in~~ formed at an interface card; and

a storage device electrically coupled to an I/O port formed ~~on~~ at the interface card, consisting of at least a first data block and a second data block in response to the first data block ~~wherein; wherein~~

upon receiving at least a newly stored data transmitted from the main system, the storage controlling unit determines whether there is any difference ~~found~~ between the newly stored data and ~~at least a~~ the previously stored data ~~located in~~ the first data block thereby backing up each ~~difference~~ the different data in the previously stored data from the first data block to the second data block, and then storing the corresponding different data in the newly stored data through the

Application No.: 10/779,302

Docket No.: JCLA10577

I/O port to the first data block where the different previously stored data is ~~located~~ saved as long as there is any ~~one~~-different data found between the newly and previously stored data.

Claim 8 (original) The storage system of claim 7, wherein the storage device connected with the I/O port includes a multiple-disk data storage array.

Claim 9 (currently amended) The storage system of claim 7, wherein the storage controlling unit, according to a block-mapping table, identifies the difference between the newly received data and the previously stored data ~~both which share the same entry defined in the block-mapping table.~~

Claim 10 (currently amended) The storage system of claim 9, wherein the ~~backup~~ process of backing up the different previously stored data to the second data block is recorded in said block-mapping table.

Claim 11 (currently amended) The storage system of claim 9, wherein the ~~storing~~ process of storing the different newly stored data to the first data block is recorded in the block-mapping table.

Claim 12 (currently amended) The storage system of claim 7, wherein the storage controlling unit consists of at least a chip controller and ~~an~~ embedded driver software.

Claim 13 (currently amended) A storage system with a snapshot-backup capability ~~electrically, externally~~ coupled to a motherboard having a main system, comprising:

Application No.: 10/779,302

Docket No.: JCLA10577

a storage controlling unit for receiving and processing at least a newly stored data transmitted from the main system, ~~disposed in the~~ formed at a motherboard; and

a storage device electrically coupled to a system bus ~~formed on~~ of the motherboard, consisting of at least a first data block and a second data block corresponding each other; ~~in response to the first data block wherein~~

upon receiving the newly stored data from the main system, the storage controlling unit determines whether there is any difference ~~found~~ between the newly stored data and ~~at least a~~ the previously stored data located in the first data block thereby backing up ~~each different~~ the different data in previously stored data from the first data block to the second data block, and then storing the corresponding different data in the newly stored data through the system bus of the motherboard to the first data block where said different previously stored data ~~is located~~ saved as long as there is any ~~one~~ different data found between the newly and previously stored data.

Claim 14 (original) The storage system of claim 13, wherein the storage device connected with the system bus includes multiple-disk data storage array.

Claim 15 (currently amended) The storage system of claim 13, wherein the storage controlling unit, according to a block-mapping table, identifies the difference between the newly received data and the previously stored data ~~both which share the same entry in the block-mapping table.~~

Claim 16 (currently amended) The storage system of claim 15, wherein the ~~backup~~ process of backing up the different previously stored data to the second data block is recorded in the

Application No.: 10/779,302

Docket No.: JCLA10577

block-mapping table.

Claim 17 (currently amended) The storage system of claim 15, wherein the ~~storing~~ process of storing the different newly stored data to the first data block is recorded in the block-mapping table.

Claim 18 (currently amended) The storage system as described in claim 13, wherein the storage controlling unit includes at least a chip controller and ~~an~~ embedded driver software.

Claim 19 (currently amended) A storage method for facilitating having a snapshot-backup capability ~~within a storage system, the storage system having a storage device, the storage device having multiple primary data blocks and multiple backup data blocks, the method comprising:~~

providing a storage system which have a storage device and is externally coupled to a main system, the storage device further has multiple primary data blocks and multiple backup data blocks ;

receiving at least a newly stored data transmitted from ~~a~~ the main system;

comparing the newly stored data with ~~at least a~~ the corresponding previously stored data located on in the data blocks, ~~which is corresponding to the newly stored data by~~ of the storage system; and

backing up each different previously stored data from the primary data block to the backup data block, and then storing the corresponding different newly stored data to the primary data block where the different previously stored data is ~~located~~ saved as long as there is ~~any one~~ different data found between the newly and the previously stored data.

Application No.: 10/779,302

Docket No.: JCLA10577

Claim 20 (currently amended) The storage method as defined in claim 19, further comprising:

examining a block-mapping table to find out the different previously stored data corresponding to each newly received data;

in ~~within the backup process of~~ for backing up the different previously stored data, a mapping process of the previously stored data to the backup data block is recorded in the block-mapping table; and

in ~~within the storing process of~~ for storing the corresponding different newly stored data to the primary data block, a ~~covering process of~~ for covering the different newly received stored data to the primary data block where the different previously stored data is ~~located~~ saved is recorded in the block-mapping table.